

## Shahla Peterman

Department of Mathematics and Computer Science

University of Missouri – St. Louis

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### Education

[1980-1982] University of Wisconsin Madison, Wisconsin

#### **Master of Arts in Mathematics**

[1976-1980] Iowa State University Ames, Iowa

#### **100 Quarter-hours in Engineering**

[1971-1975] Esfahan University Esfahan, Iran

#### **Bachelor of Arts in Mathematics**

- Minor Field: Physics

### Experience

Sept. 2007–present University of Missouri Saint Louis, MO

#### **Teaching Professor, Department of Mathematics and Computer Science**

- Taught Calculus II, College Algebra, Basic Calculus, Structure of Mathematical Systems II, continued the modifications to the redesign of college algebra and trigonometry, and managed the Mathematics Technology Learning Center (MTLC).

1993–2007 University of Missouri Saint Louis, MO

#### **Senior Lecturer, Department of Mathematics and Computer Science**

- Taught Calculus I, II and III, College Algebra, Trigonometry, Basic Calculus, Structure of Mathematical Systems I and II, and Finite Mathematics.
- Led the transformation of the College Algebra Course to computer-assisted format and guided the design of the MTLC, resulting in increases in course quality and significant increases in the passing rates on standardized final exams and in the course (2004 – present).

1982–1992 University of Missouri Saint Louis, MO

#### **Lecturer, Department of Mathematics and Computer Science**

- Taught Calculus I, II and III, College Algebra, Trigonometry, Basic Calculus, Structure of Mathematical Systems I and II, and Finite Mathematics.

1984–1985 Epstein Hebrew Academy Junior High School Saint Louis, MO

#### **Teacher**

- Taught Algebra, Geometry and Basic Programming.

1982–1981 University of Wisconsin Madison, WI

#### **Graduate Teaching Assistant, Mathematics Department**

- Taught Basic Calculus.

1980–1981                    Iowa State University                    Ames, IA

**Research Technician, Agricultural Engineering Department**

- Evaluated and tabulated rainfall charts for computer analysis.

1979–1980                    Iowa State University                    Ames, IA

**Assistant Manager, Buchanan Hall, Department of Residence**

- Assisted in managing a graduate residence facility.

1974–1974                    Shah Abbas Elementary School                    Esfahan, Iran

**Teacher**

- Taught third grade elementary students.

1973–1973                    Zobe Ahan Company                    Esfahan, Iran

**Student Intern**

- Reviewed job classification of factory workers for possible wage adjustment.  
Translated documents from English to Farsi.

**Awards**

Chancellor's Award for Excellence, Spring 2007.

Lecturer of the Year Award, 2006.

Induction to Golden Key International Honor Society, Fall 2002.

Nomination for Chancellors Award for Excellence in Teaching, Spring 2000.

Lecturer of the Year Award, 1998.

Nomination for Lecturer of the Year Award, Winter 1990.

Meritorious Service Awards Disabled Student Union, University of Missouri-St. Louis 1984, 1986, 1989, 1990, 1991, 1997, 1999, 2000, 2001, 2002, 2003, 2004 and 2006.

**Grants**

**ELIXR/Merlot Case Stories, funded by a FIPSE grant.** University of Missouri –St. Louis, June 6,2008 - May 1, 2009.

- The matching grant is named ELIXR/Merlot Case Stories and was funded through a FIPSE grant. Our theme is: Reimagining Learning Spaces for Interactive Pedagogy. We were one of five institutions named in the second round of Requests for Proposals. From the RFP: "An ELIXR module is a set of digital case stories illustrating an exemplary teaching practice in higher education, and related resources for use in faculty and professional development. The case stories are created by faculty members to share the processes and outcomes from implementing exemplary teaching practices in their own subject matter and context." My case story is about the redesign of college algebra and the use of our learning space, MTLC. I helped with the writing of the proposal in May, participated in the tele-conference in August, worked on the list of my questions, and my segment was video-taped during the fall semester. I also identified and arranged for students for the interview which was done last fall semester.

**Innovation Grant for Integrating Technology in Teaching and Learning,**  
University of Missouri-St. Louis, December 2007.

- This project was to use the software "Camtasia Studio" (napzProX for Mac) to create a number of mathematics movies to provide guided solutions to difficult problems in Math 1030 (college algebra). These examples were chosen from among a few hundred examples that have been posted, in typed form, on gateway every semester for the last four years. Using Camtasia, we converted these typed solutions to short animated math movies, which included voiced instructions explaining each step as it evolves. Camtasia allows one to use a pen to point, to underline, and to write within the movie. These math movies were put in Flash movie format ready for students to view via gateway, or to download to their personal computers or iPods. The students can use them as needed when they are doing homework, or preparing for a quiz or a test.

**Preparing for Phase 2 of Math 1030 Redesign,** Arts and Sciences, University of Missouri-St. Louis, June – August 2005.

- The grant was used to prepare for Phase 2 of redesign of college algebra starting academic year 2005-2006 in the newly built Math Technology Learning Center (MTLC).

**Road Map to Redesign,** Academic Transformation, September 2004 – June 2006.

- Workshop. Introduction to redesigning college algebra.
- Conference. Presentation of the results of our initial course redesign.
- Conference. Final presentation of our course redesign.

**Department/  
University Service**

**Member of the following committees:**

Alumni  
Curriculum (Department)  
Curriculum (College of Arts and Sciences)  
Mathematics Education  
Academic Computing  
Andalafte, Spencer and Scholarship Committee  
Lecturer Selection Committee  
Book Selection Committee  
Review new editions of textbooks and possible alternative textbooks for possible adoption. Textbooks reviewed have included College Algebra, Trigonometry, Pre-Calculus, Basic Calculus, Analytical Geometry and Calculus I, II and III, and Mathematics for Elementary Teachers.

Served in the Alumni, Andalafte Memorial, and Balbes **Scholarship** committee, Spring 08, Spring 09.

Served in the committee to **evaluate the NTT faculty**, Mathematics Department, March 2008, March 2009.

Served in the committee to revise the **placement exam**, Mathematics Department, February 2009.

**Saint Louis Community College at Florissant Valley site visit.**  
Met with Dr. Daba Niang Ndaa faculty member at the college to show her the MTLC and to talk about our redesign of college algebra, January 2009.

Served on an ad hoc committee to review the case of one faculty member considered for the title change from **"Lecturer" to "Assistant Teaching Professor."** The committee also drafted a college policy for considering and processing such changes, November 2008.

Served on the search committee for the new dean of the college of arts and sciences, Campus, September 2008 - February 2009.

Served in the committee to develop Master Syllabi, Department, September 2008 - October 2008.

**University of Minnesota Rochester site visit August 2008.**

Cindy Lehmkuhle and Claudia Neuhauser visited from University of Minnesota Rochester visited MTLC

**Visit to MTLC by Dr. George Mehaffy**, June, 2008

Dr. George Mehaffy, Vice President of the American Association of State Colleges and Universities (AASCU), visited MTLC.

**Course Coordinator for Math 2510 Jefferson College** December 2006 - present  
Coordinated course taught by the Jefferson College faculty.

**Administer Math Technology Learning Center (MTLC)** Fall 2005 – present

Wrote the MTLC TAs Training Manual, May 2008 - August 2008.

Schedule educators from other universities to visit the MTLC

Monitor scheduling of courses in the MTLC

Reserve time for the faculty's use of the testing center

Staff and schedule the undergraduate TAs

Hire and train undergraduate teaching assistants

Supervise the undergraduate and the graduate teaching assistants

**Course Coordinator** (Math 1030, Math 1035, Math 1100, Math 1150 and 2510, Math 1800, Math 1900, Math 2000 throughout the years)

Make up a course syllabus for the semester, and provide each instructor of the course (both day and evening) with a copy. The syllabus must include the topics to be covered in the course as well as the sections of the text which are to be covered and the approximate amount of time that should be spent on each topic/section as well as the number of exams that must be given in the course.

Make sure that each course coordinator prepares an attachment to the syllabus that lists the approximate dates of the exams, as well as whether or not quizzes and homework will be given. The method by which the course grade will be determined must be spelled out. If there are common lab assignments, computer assignments, or problem sets for the course, have those prepared by the week before the start of classes.

Monitor each instructor of the courses to make sure that all topics on the syllabus are being covered in a timely manner. Approve and keep a copy of every exam that is given by each instructor in the course. Schedule meetings with all instructors in the course as needed. Schedule meetings with all instructors in the course and to set grading criteria after the final exam for the course. Approve the final grades for each instructor of the course.

**Wayne State University site visit**, April 13, 2007

Met with Dr. Howard Shapiro of Wayne State University to show him the MTLC and have him observe a one-hour lab that was meeting there.

**Wayne State University site visit, August 14, 2007**

Met with two faculty members from the Wayne State University Mathematics Department, Patty BoneSteel and Becca Morgan, to discuss their problems with implementation of their intermediate algebra course redesign.

**Modern College of Business and Science in Muscat, Oman, November 2006**

Met with Dr. Bernard LaBerge, Dean of Business & Science to discuss the revisions made to College Algebra, Trigonometry, and Basic Calculus for future updates of their courses. Software products and the function of the MTLC in our redesigned courses were discussed.

**Pilot Assessment and Results National Center for Transformation, June 2006**

Prepared the pilot-course completion-assessment-and-results document for College Algebra in preparation for the June meeting.

**Redesign College Algebra, January 2004-July 2006**

Investigated and piloted various teaching methods to improve retention. Viewed and selected software for the course. Chose the replacement Model and MyMathLab. Trained faculty who were going to teach the course after creating the course and online homework. Trained graduate and undergraduate teaching assistants to assist in the MTLC.

**Redesign Basic Calculus, January 2006-May 2006**

Piloted a section of this course using the supplemental model and online homework.

**Redesign Trigonometry, January 2005-July 2006**

Using the supplemental model and MyMathLab I created homework online. The graduate students who were teaching the course were trained.

Took part in the **Outreach Program** teaching a college credit Mathematics at Fox High Fall 1996 and Fall 1998, Parkway Central High Fall 1999 and Winter 2000, Brentwood High Winter 2002, Fox High Fall 2002, Jefferson College Spring 2003, 2004, 2005, 2006.

**Pilot Assessment and Results National Center for Transformation June 2005**

Prepared the Pilot-Course Interim-Progress-Assessment and Results-document for College Algebra in preparation for the June meeting.

**Member of the design team for creating the MTLC, Summer 2005**

My role was to design a lab that would be appropriate for our redesigned college algebra course.

**Revised Basic Calculus (Math 1100) from four credit hours to three credits, 1996**

Adjusted the syllabus such that the material needed by the departments that this course serves was still included. Chose a new textbook. Made universal homework assignment sheets from the text so that sections of the course (day and evening) taught the same material. Developed worksheets. Developed new review sheets for the exams to be used in all sections.

**Gulf University in Kuwait August 2005**

Met with Dr. AlSharhan, Director of the e-learning center, to discuss the revisions made to College Algebra, Trigonometry, and Basic Calculus for future updates of their courses. Software products and the function of the MTLC in our redesigned courses were discussed.

**Modern College of Business and Science in Muscat, Oman** reviewed the Basic Calculus course for the future transfer of their students to UM-St. Louis.

**Co-hosted Iranian New Year's cultural experience**, International Student Organization 1987 and 1988.

**Guest lecturer**, "Women In Comparative Cultures", Women Studies Department University of Missouri-St. Louis, 1983 and 1985.

**Participated in the orientation** March 1997, and March 1998, meeting prospective student and making follow-up telephone calls.

**Open House**, participated in the Summer 1997.

**Professional Activities of a Community Service**

Organized the workshops for the Math and Science Network Spring Conference.

Panelist in the Mathematics and Sciences Conference, Spring 1996 and 1997.

Guest Speaker – KWMU, "Mathematics in the U.S. – a foreign perspective", Fall 1982.

**Professional Activities of an International Service**

Helped Dr. Maya Mitkova with course redesign etc., and consulted with on a paper, **GUST, Gulf University of Science and Technology in Kuwait**, International, August – September 2008

**Gulf University of Science and Technology in Kuwait**, Consulting visit in the area of curriculum development, February 15 – 20, 2008

Met with the chair and the faculty of the math department individually and as a group to discuss their courses and make recommendations for content adjustments where necessary.

**Gulf University of Science and Technology in Kuwait**, May 2007

Evaluated courses and made recommendations for drastic content changes.

**Gulf University of Science and Technology in Kuwait Tele-video Conference**, sponsored by the Center for International Studies, University of Missouri – St. Louis, April 3, 2007

Presented ways to assist students having difficulty with mathematics. A summary of our progress in improving college algebra was also presented.

**Modern College of Business and Science in Muscat, Oman**, November 2006

Met with Dr. Bernard LaBerge, Dean of Business & Science to discuss the revisions made to College Algebra, Trigonometry, and Basic Calculus for future updates of their courses. Software products and the function of the MTLC in our redesigned courses were discussed.

**Gulf University in Kuwait**, August 2005

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**Modern College of Business and Science in Muscat, Oman**

Reviewed the Basic Calculus course for the future transfer of their students to U.M.-St. Louis.

**Conferences/  
Presentations/  
Talks/Workshops**

**Attended, Team UP Math Forum Conference**, March 27, 2009, Kansas City, MO.

**Panelist, "College Level Mathematics", The Redesign Alliance Third Annual Conference**, March 22- March 24, 2009, Orlando Florida.

**Attended "Mathematics –"Challenges in the Classroom" workshop**, sponsored by McGraw Hill, St. Louis University, and Washington University, March 20-2009, Washington University.

**Presented "Camtasia Software: Enhanced Learning via Math Movies," Focus on Teaching and Technology Conference 2008**, Shahla Peterman and Emily Ross, UM. St. Louis, November 2008.

**Organized the workshop "Use of MyMathTest and Aleks for Placement Exam,"** Demonstration by Pearson Publishing and McGraw Hill Company , U.M. St. Louis, May 9, 2008.

Attended the workshop **"Using SMART Symposium Technology"** UM-St Louis, April 3, 2008.

**Panelist, Effective Teaching: Tips from 2007 Award Winners, Focus on Teaching and Technology Conference**, University of Missouri St. Louis, Nov 2, 2007

**Panelist, Using Peer Tutors to Support Learning: Opportunities Across the Disciplines, Focus on Teaching and Technology Conference**, University of Missouri St. Louis, Nov 2, 2007

**MyMathTest Beta Test Program, Pearson Publishing Tele-Conference**, October 19, 2007.

- Discussed our findings in testing MyMathTest and made recommendations for improvement.

**Professional Development Conference for Graduate Teaching and Research Assistants**, August 2005, 2006, 2007, and 2008.

- Did a workshop for the teaching assistants scheduled to teach trigonometry about the use of the software (MyMathLab/Course Compass) to do homework and also to manage the course.

**Attended "Peer Academic Leaders (PALS) Workshop, Center for Teaching and Learning**, August 2007 and 2008

**GUST (Gulf College of Science and Technology), University in Kuwait** (sponsored by the Center for International Studies University of Missouri – St. Louis), via Tele-video , April 3, 2007

- Presented ways to assist students having difficulty with mathematics. A summary of our progress in improving college algebra was also presented.

MyMathLab Development Summit, (Sponsored by Pearson Publishing), Boston, Massachusetts, January 18-20, 2007.

- Reviewed new features of MyMathLab. Discussed successes and failures using technology to teach mathematics with faculty from across the country.

Focus on Teaching and Technology Conference, UMSL, November 2-3, 2006.

- Presented a summary of ways technology improved our college algebra.

Math Zone Virtual Focus Group, McGraw Hill Publishing, October 19, 2006.

- Panel discussion on improvements to Math Zone.

Graduate Teaching Assistant Workshop, Center for Teaching and Learning, UMSL, August 2004, 2005 and 2006.

- Trained our graduate students on current software being used in departmental courses (MyMathLab and iLrn).

The Roadmap to Redesign (R2R) Workshop III. Final Progress Reports June 22-23, 2006.

- Presented our final model and results of its implementation.

Missouri Mathematical Association of Two Year Colleges, 2006 Momatyc/Kamatyc Spring Conference, March 31 - April 1, 2006.

- Presented a summary of our progress in improving college algebra using new teaching method and technology. Presentation included demonstration of MyMathLab.

Junior Science, Engineering and Humanities Symposium (JSEHS), March 2006.

- Presented the participants in the 3 sessions our new revised college algebra and the use of Math Technology Learning Center.

Redesigned College Algebra using MyMathLab, March 2006

- Presented the faculty from several schools in Missouri and Illinois with our redevelopment and progress in teaching college algebra.

The Roadmap to Redesign (R2R) Workshop II. Interim Progress Reports June 16, 2005

- Presented a brief summary of our choice of model and how it was implemented. Our presentation was supplemental model, the software we used (iLrn), and its results. We then talked about plans for the future. We went over our replacement model, MTLC, and the software we planned to use, MyMathLab.

Presented "Replacement Model For Teaching College Algebra Using MyMathLab "

- Presentation to inform faculty and the University informed about our progress and plans before the full scale implementation of the replacement model March 2005

Brooks/Cole Teaching Solutions Regional Workshop Series March 4-5, 2005 in Las Vegas, Nevada.

- Attended workshops to learn about upgrades being made to iLrn and supplemental materials available for Brooks/Cole textbooks.

LEAD (*Learning Enhancement Across Disciplines*) Program at UMR, April 14, 2005

- A group of us from UMSL spent the day learning about the UMR-Lead program. We visited the Physics Learning Center, then met with other faculty who use the Learning Center to learn about their program.

Presented "Supplementary Model For Teaching College Algebra Using iLrn"

- A presentation to inform faculty and the University informed about our progress and plans for college algebra. February 2005

Attended Meeting of the four campuses of the University of Missouri November 4, 2004, Columbia, MO.

Attended National Symposium on College Algebra (Sponsored by McGraw-Hill Higher Education) January 29 - February 1, 2004, Huntington Beach, CA

Attended the Roadmap to Redesign Workshop June 2, 2004, Baltimore, Maryland.

Hosted Internet-Assisted Classroom Math Symposium, Sponsored by Addison Wesley, October 9, 2004.

Attended meeting with the faculty at the University of Alabama, December 7, 2004.

Organized workshops for the following publishers to demo their software, academic year 2003-2004

- HM Math Space, Houghton Mifflin Company
- Math Zone, McGraw-Hill Higher Education
- iLrn, Brooks/Cole
- MyMathLab, Addison Wesley

Attended the Calculus Reform Workshop, Summer 1993.

Attended Calculus and Technology meeting, May 1994 and May 1996.

## **Publications**

**Addressing the Crisis in College Mathematics: Designing Courses for Student Success**, with Teresa Thiel and Monica Brown, 2008 issue of **Change magazine**.

**Developed and published Maple computer lab manual for Basic Calculus.** (McGraw Hill 1995, 1997 and 1999)

## **Interviews**

Published interview in Winter 2007 of *Lumina Foundation Focus Magazine*.

Published interview in May 2006 (Volume 7, Issue 9) of *Deans & Provosts*.

Published in the Spring 2006 of *UM - St. Louis Magazine*

Published article in the *Alumni Newsletter* May 2004 and 2006.

## **Consulting**

Consulted with Adam Jaworski editor of Bob Blitzer college algebra and trigonometry book MyMathLab Homework. Pearson Publishing, June 2008.

Coburn's COLLEGE ALGEBRA & TRIGONOMETRY, McGraw-Hill Higher Education, February 2009

Berresford/Rockett Applied Calculus 4/e, Houghton Mifflin Company, June 2007

Bittinger/Calculus and its application 8/e, Pearson Publishing, May 2007

MyMathTest Beta Test Program, Pearson Publishing, October 2007.

Himonas: Applied Calculus, John Wiley and Sons, Inc., February 2005.

Consulted with Sullivan Algebra & Trigonometry, 2005.

Consulted with Laurence Hoffmann, Gerald Bradley, and Ken Rosen, authors of Applied Calculus for the Business, Economics, Social and Life Sciences, Expanded 8/e, December 2004.

Consulted with Modern College Algebra 1st edition Reviewed the work in progress of the textbook Modern College Algebra 1st edition, Spring 2004.

Consulted with Mike Ziegler and Karl Byleen in revising Calculus for Business, Economics, Life Science, and Social Sciences, by Barnett, Ziegler, and Byleen. I have been teaching from this book for most of the last 21 years that I have been teaching at UMSL and was happy to have a chance to have some input in their new edition, Fall 2003.

Consulted with Prentice Hall on a calculus manuscript-in-progress by Lynn Garner for future publication by reviewing the rough manuscript, Fall 2003.

Consulted with John Wiley & Sons regarding Calculus by Anton, by evaluating the Quick Check Exercises in the book, which is a new feature, Fall 2003.

Consulted with McGraw-Hill Higher Education Group in reviewing the first four chapter of their text titled, Business Calculus by Hoffman & Bradley, Fall 2002.

Consulted with College of Business Science in Oman in reviewing Reviewed the Basic Calculus course, Summer 1998.

Consulted with Simon& Schuster Higher Education Group in reviewing their text titled, Applied Calculus by Barnett and Ziegler, Spring 1997.

Consulted with Simon& Schuster Higher Education Group in reviewing their text titled, Mathematical Structures, Spring 1993.

Consulted with John Wiley& Sons, Inc Higher Education Group in reviewing their text titled, Applied Calculus, Summer 1993.